

PUBLIC NOTICE

PERMIT APPLICATION: NRS #06.094

APPLICANT: TDOT

505 Deaderick Street
Suite 900 James K Polk Bldg.
Nashville, TN 37243-0339
(615) 253-2477

LOCATION: SR-28 (US 127) Sawmill Ridge Road, North of Jamestown
0.2 miles north of Big Dry Creek to 1.7 miles north of Big Dry Creek
Site Lat. 36.4918° Long. -84.9685°

Fentress County

WATERSHED DESCRIPTION: This project is located in the Obey Watershed (HUC 05130105) on the western edge of the Cumberland Plateau. Seven streams and one wetland will be impacted. Five of these streams are headwater streams originating from springs and seeps. These streams combine to form one, second order stream. The sixth stream, originates from a groundwater conduit in the wall of an abandoned quarry and returns to groundwater through fissures in the bedrock just outside the quarry. The seventh stream is an intermittent stream beginning near the Rubles property, adjacent to the abandoned quarry, flowing to the end of the project on the left side of the road. These streams have not been assessed to determine if they are meeting their designated uses. These streams drain to the Wolf River. The Wolf River, located approximately 1.5 miles from the end of this project, has been assessed as fully supporting its designated uses. The land surrounding the project area is forested and rural. Based on analysis of the underlying geologic formation, it is expected that pyrite, an acid-producing mineral, will be encountered in cuts made to relocate the road. **USGS TOPO QUAD:** Pall Mall, TN (335-SW) and Jamestown, TN (115 NW).

PROJECT DESCRIPTION: This application is for an aquatic resource alteration permit for a 1.685-mile re-alignment of SR 28 (US 127). The road is being moved and widened to include 3, 12ft lanes with 6ft shoulders. Off site spoil areas will be needed to accommodate the overburden from excavation along this alignment. Pyritic material is to be encapsulated if the Acid/Base accounting is <-5. Pyritic material with Acid/Base Accounting of 0 to-5 is proposed to be used in fill slopes.

The project begins with improvements to Sawmill Ridge Road intersection, Station 96+20, and follows existing alignment to Station 105, approx. 880 ft, with the majority of additional right of way (ROW) acquired left of the road. The new alignment begins near Station 105 where the alignment shifts right of the existing road. Wetland A and Stream A will be impacted.

Wetland A, 0.050 acres, located from Station 104+30 Rt to Station 110+65 Rt, Lat.36.4880 Long -84.9665, is proposed to be completely filled with 2ft of graded solid rock. The seeps feeding the wetland are the hydrologic source for Stream A, Station 105+65+/- Rt. No mitigation has been proposed because of the size of the lost resource.

Stream A, Lat. 36.4883, Long. -84.9667, is proposed to be relocated with 28 ft of stream loss. The existing 490ft of stream in the ROW is first order, approx. 6"-1.5ft channel bottom width, 1ft-5ft top of bank width, with 1:1 slopes and gravel substrate. The proposed channel is to be a 462ft, 2 ft deep trapezoidal riprap lined ditch (2.5ft thick embedded riprap on bed and bank), with 2ft wide channel bottom, 2:1 bank slope for an approximate top of bank width of 8ft located 25 ft north of the existing stream location. This stream flows north off the ROW and is a tributary to Stream 1 described below. Proposed mitigation for this stream impact is payment of \$75,000 to the Tennessee Stream Mitigation Program (TSMP), \$69,400 for the 462 ft of rip rapped lined channel and \$5,600 for the loss of stream length.

The road is being relocated north (right) of its current location from Station 105 to Station 120 to eliminate a sharp curve prior to Squirrel Flat Road. This realignment will require a large cut through the hillside from Station 110 to 118+50. The maximum elevation change is approx. 85ft at Station 115+50, changing the elevation from 1735 to 1650. The submitted Acid Neutralization Potential Testing Summary shows extremes of +50 at station 114+50 and -50, Station 116+08.

Stream B, Lat. 36.4904 Long. -84.9688, beginning from seeps at Station 119+60Rt is being relocated. This stream flows down an existing cut forms a channel before crossing an existing bench then enters stream 1 at Station 122Lt. The stream appears to have formed by the interception of groundwater from previous earth moving activities. The substrate is soil and gravel, with a channel bottom width of approximately 6" to 1', and maximum 2ft top of bank width. The proposed channel is a riprapV shape to join Stream 1. An 114ft, 18-inch side drain with 5ft endwalls on the inlet and the outlet is proposed for a private driveway crossing. A loss of 76 ft of stream is proposed. Total proposed mitigation for these impacts is \$71,750 to the TSMP, \$22,800 for the 114ft of encapsulation, \$33,750 for the 225ft of riprap, and \$15,200 for the 76ft loss of stream length.

Squirrel Flat Road intersection, Station 120 Lt, is being relocated to intersect with the new US 127 realignment requiring a cut from Station 120 Lt to 125 Lt, bisecting two streams, Streams C and D, and causing the encapsulation of Stream 1. The submitted Acid Neutralization Potential Testing Summary shows extremes of +38 at station 124+50 and -25 at Station 125+41.

Stream C, Lat. 36.4910 Long. -84.9696, Station 121+60 Lt to Station 124+20Lt, a first order stream approx. 1ft wide beginning from seeps in the hillside, is being bisected. Due to the steepness of slope, the stream does not meander and goes subsurface before flowing under US 127 to Stream 1. Stream length has been calculated as 379ft, with 102 ft being in an existing culvert. As proposed, Stream C will flow down a cut face over a 20ft wide rip rap slope drain with geotextile liner to a rip rap trapezoidal ditch with bottom width of 2ft and a 2:1 slope. The riprap is to be 2.5ft thick embedded into the stream bed and bank. Stream D is proposed to combine with Stream C in this trapezoidal roadside ditch. This stream will flow south crossing under the new Squirrel Flat Rd in a 42ft, 53-inch x 34-inch concrete pipe. The trapezoidal ditch will continue to join Stream 1

at the inlet of the proposed pipe on Stream 1. Tree plantings are proposed between the new Squirrel Flat Rd. and Stream 1. Total proposed mitigation for these impacts is \$65,200 to the TSMP, \$8,400 for the 42ft encapsulation and \$56,800 for the 379 ft of riprap stream channel.

Stream D, Lat 36.4918 Long-84.9685, Station 123+80 Rt to Station 125+90 Lt a first order stream approx. 1ft wide begins off ROW, flows over a rock shelter forming a small waterfall, down a steep gradient before flowing southeast under US 127 in a metal pipe to Stream 1. The total stream length has been calculated to be 451ft with 90ft being an existing culvert. A small slide has occurred where US 127 crosses this stream. Stream D is proposed to be bisected by a cut. The water is to flow down a 20ft wide riprap slope drain with geotextile liner to the riprap trapezoidal ditch then south to join the ditch proposed for Stream C. 244ft of stream will be lost. Total proposed mitigation is a payment of \$79,800 to the TSMP, \$48,800 for the length loss and \$31,000 for the 207 ft of riprap.

Stream 1, Lat. 36.4916, Long.-84.9678, Station 122+44, a second order, unnamed tributary to Dry Branch currently flows northeast parallel to US 127 from the intersection at Squirrel Flat Road on a cobble and gravel substrate. This stream ranges from 1ft to 6ft wide with depths ranging from less than 1ft to 3ft. The new alignment is proposed to cross this stream at a 45° angle. A 416ft, 48 in. concrete pipe is proposed. Stream C will combine with this stream at the inlet and Stream B will combine with this stream at the outlet. At the outlet of the concrete pipe, a 223 ft riprap channel is proposed with tree plantings on the east side of the channel. The channel is to be 2ft wide at the bottom, with 2:1 slopes with at top of bank width approx. 8ft. Riprap 1.5ft thick is to be embedded in the bed and bank. Proposed for mitigation for this stream impact is payment of \$116,650 to the TSMP, \$83,200 for the 416ft encapsulation and \$33,450 for the 223ft rip rap channel.

From Squirrel Flat Rd north to Station 167 is new alignment requiring cuts and fills. The Acid Neutralization Potential Testing Summary shows extremes of +50 at Station 134 to -120 at Station 136. The maximum elevation change along this segment is approximately 135ft, from 1681ft to 1546 ft at Station 129+50. From Station 148+50 to Station 167 filling will be necessary. The maximum fill area is an abandoned quarry from Station 157+95 Lt, to 162+.03 Lt, 1257ft to be filled to 1310ft, 53ft.

Stream E, Lat.36.5010°, Long. -84.9675°, Station 157+95 Lt to 162+03 Lt, is proposed to be eliminated. This stream exits the quarry wall from a groundwater conduit approx. 15ft from the floor of the quarry. Other seeps are present in the quarry walls. The water flows across the quarry floor, forming a channel approximately 3ft wide then into a karst feature (fissure). The stream length was calculated to be 440 ft. The quarry is proposed to be used to encapsulate acid producing soil and rock with an Acid/Base Account of less than -5. It is estimated that approximately 102,000+/- cubic yards of excavated material will be less than -5. Proposed mitigation for the loss of stream is \$88,000 to the TSMP.

A temporary run around is proposed From Station 161Lt to Station 171Lt to be used during construction. Fill will be required to construct this runaround. Stream 2 lies west of this proposed work.

Stream 2, Lat.36.5028° Long. -84.9705°, is an intermittent second order stream, with boulder and cobble substrate. Proposed at Station 166+90 Lt to Station 169+90 Lt is possible disturbance of 300ft of riparian vegetation. Areas of disturbed vegetation are to be restored to pre-construction conditions.

From Station 167+50 to 176+75 will be a cut into the hillside with maximum elevation change of 52ft from 1280ft to 1228ft at Station 172+00. The remainder of the project, Stations 177 to 185 will be fills. The maximum fill depth on this section is 43ft at Station 180, from elevation 1130 to elevation 1173. This segment of proposed work will impact stream 2.

Proposed for Stream 2, Lat.36.5062° Long.-84.9709°, is a 745ft-10ft x 6ft box culvert with 15 ft of riprap on the inlet and 60ft of riprap on the outlet. Stream length loss will be 20 ft. Proposed as mitigation for these impacts is \$162,000 to the TSMP, \$153,000 for the encapsulation and length loss and \$9,000 for 60ft of riprap.

Total proposed mitigation for the value of lost resources along this alignment is \$658,400 to the TSMP.

In accordance with the Tennessee Antidegradation Statement (Rule 1200-4-3-.06), the division has determined that the proposed activity **will** result in degradation to water quality. The streams have been evaluated as Tier I.

No decision has been made whether to issue or deny this permit. The purpose of this notice is to inform interested parties of this permit application and to ask for comments and information necessary to determine possible impacts to water quality. Persons wishing to comment on the proposal are invited to submit written comments to the department. Written comments must be received within **thirty days of the date that this notice is posted**. Comments will become part of the record and will be considered in the final decision. The applicant's name and permit number should be referenced.

Interested persons may also request in writing that the department hold a public hearing on this application. The request must be filed within the comment period, indicate the interest of the person requesting it, the reasons that the hearing is warranted, and the water quality issues being raised. When there is sufficient public interest in water quality issues, the department will hold a public hearing.

The permit application, supporting documentation including detailed plans and maps, and related comments are available at the department's address for review and/or copying. The department's address is:

Tennessee Department of Environment & Conservation
Division of Water Pollution Control, Natural Resources Section
7th Floor L & C Annex

NRS06.094 SR 28 (US 127) New alignment to avoid slide prone area
Project # 25001-1286-04, PIN 102308.00
Fentress County
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401 Church Street
Nashville, TN 37243

In deciding whether to issue or deny a permit, the department will consider all comments on record and the requirements of applicable federal and state laws.

PERMIT COORDINATOR: Judy Manners

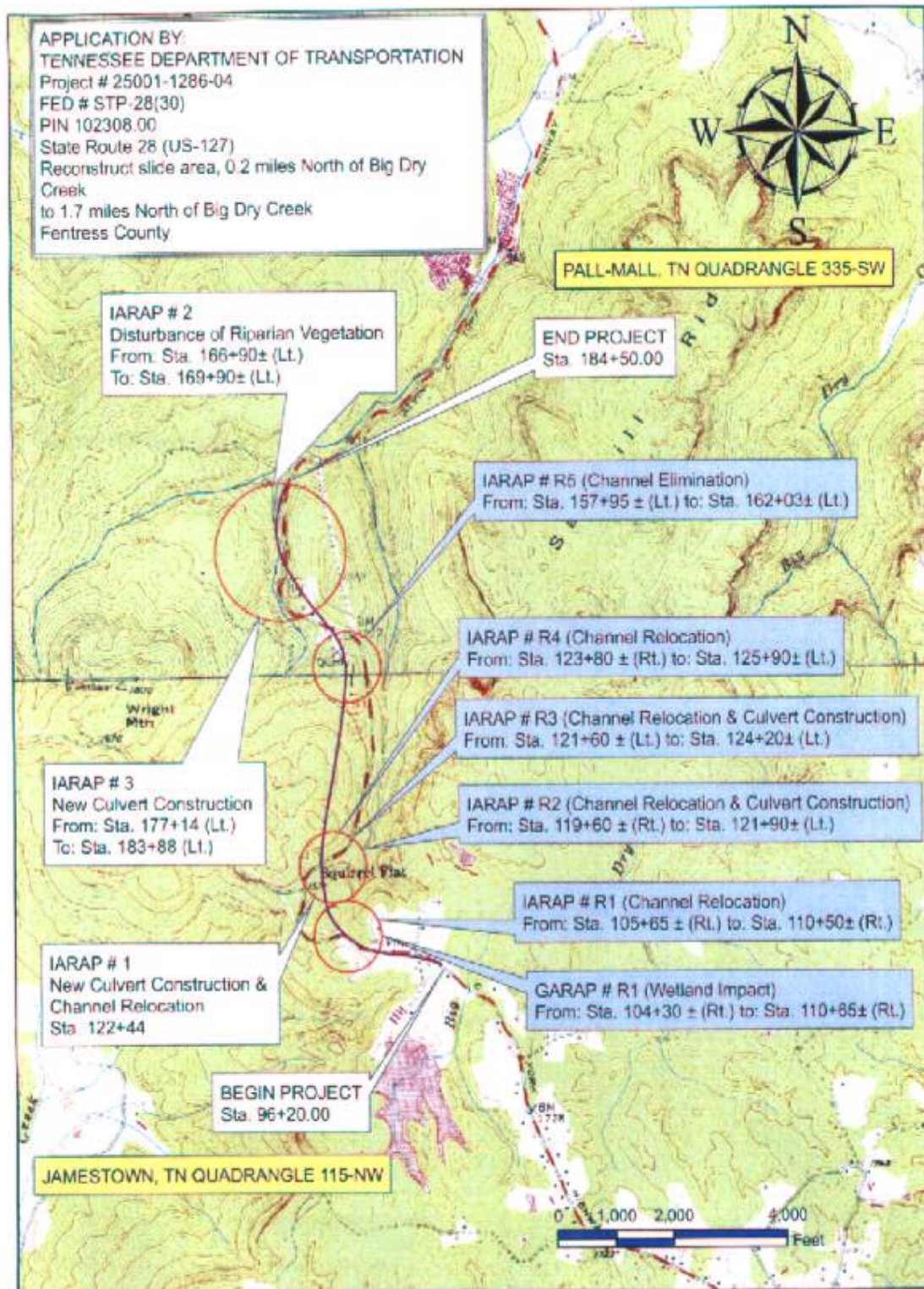
NRS06.094 SR 28 (US 127) New alignment to avoid slide prone area

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MAP:



NRS06.094 SR 28 (US 127) New alignment to avoid slide prone area
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PHOTOS:



Photo 1: Stream A valley to be filled.



Photo 2: Wetland A

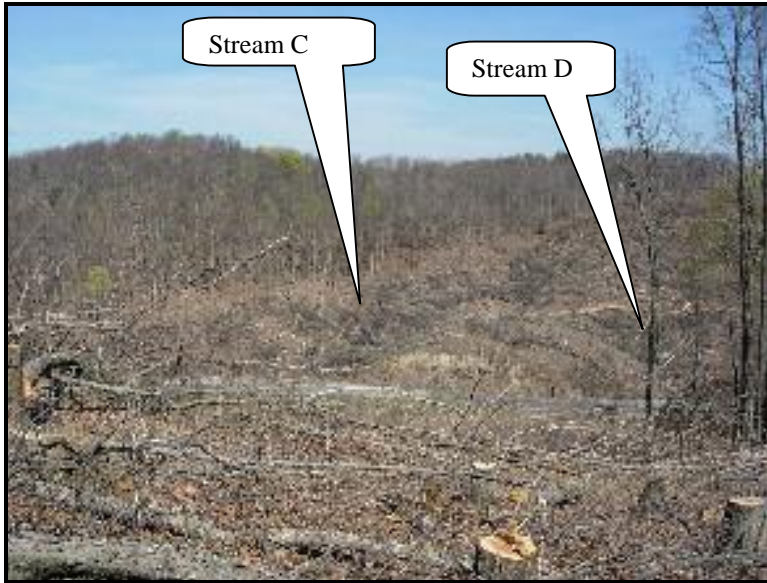


Photo3: Streams C and D



Photo 4: Stream 1 valley to be crossed

NRS06.094 SR 28 (US 127) New alignment to avoid slide prone area

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Photo 5 and 6: Stream E in the quarry

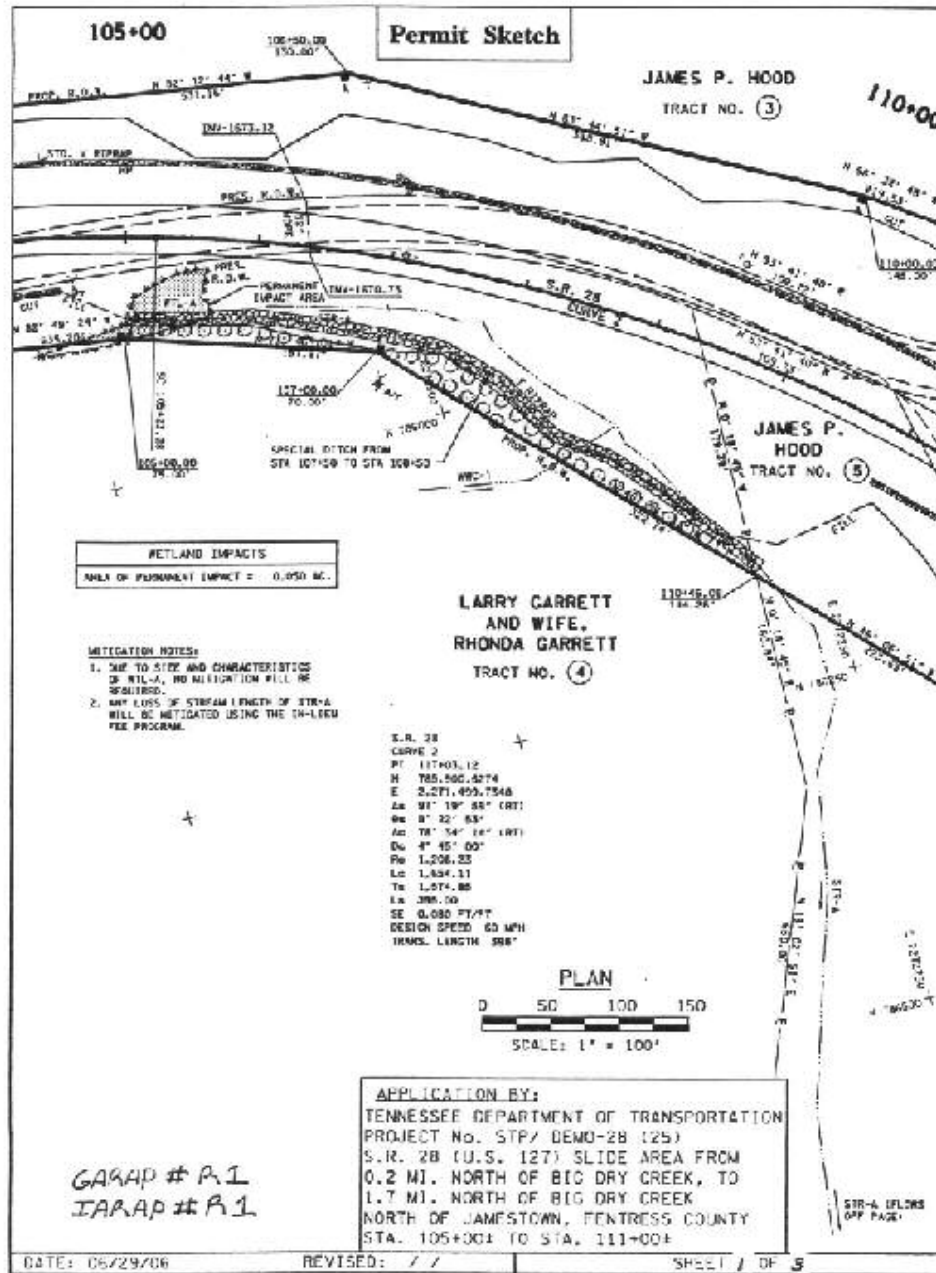


Photo 7: Stream E exiting quarry to karst feature

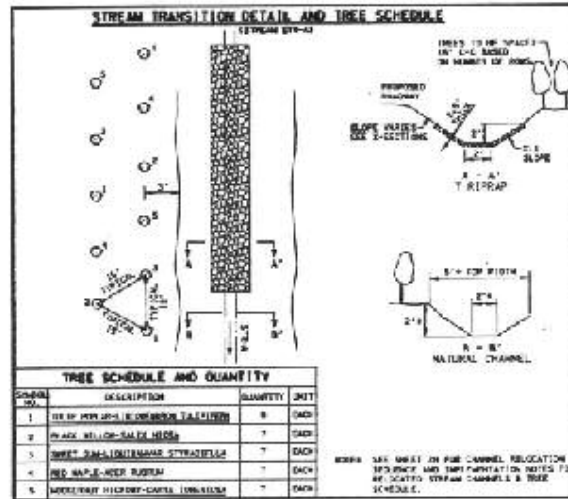


Photo: Stream 2 at location of encapsulation

NRS06.094 SR 28 (US 127) New alignment to avoid slide prone area
 Project # 25001-1286-04, PIN 102308.00
 Fentress County
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PLANS



Permit Sketch



From: Sta. 105+85± Rt.
 To: Sta. 110+50± Rt.

Channel Relocation

Unnamed tributary to Wolf River (STR-A)

Existing open stream length = 490± ft.

Proposed open stream length = 462± ft. (rip-rap lined channel)

DETAILS

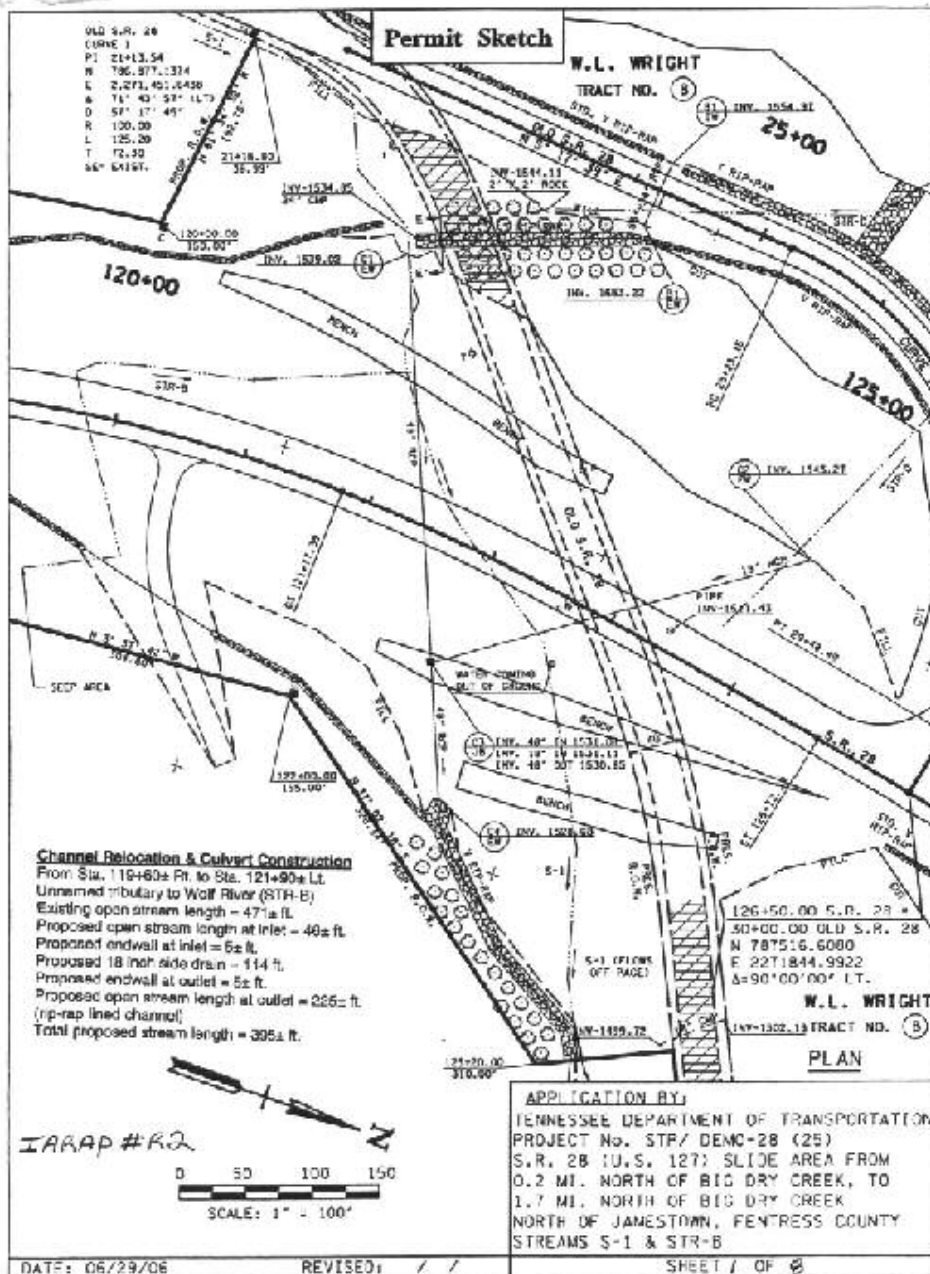
APPLICATION BY:

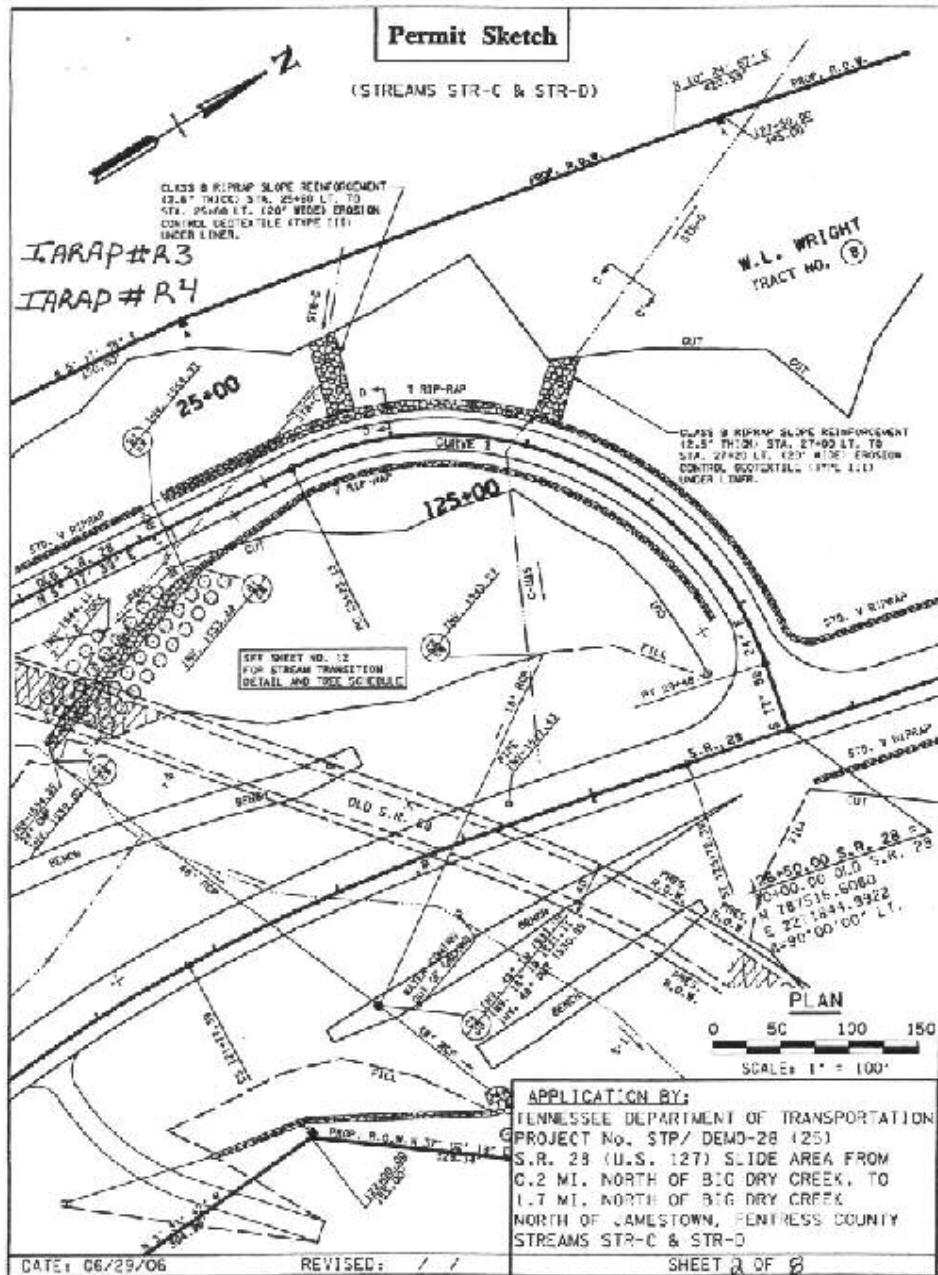
TENNESSEE DEPARTMENT OF TRANSPORTATION
 PROJECT No. STP/ DEMO-28 (25)
 S.R. 28 (U.S. 127) SLIDE AREA FROM
 0.2 MI. NORTH OF BIG DRY CREEK, TO
 1.7 MI. NORTH OF BIG DRY CREEK
 NORTH OF JAMESTOWN, FENTRESS COUNTY
 STREAM STR-A

DATE: 06/29/06

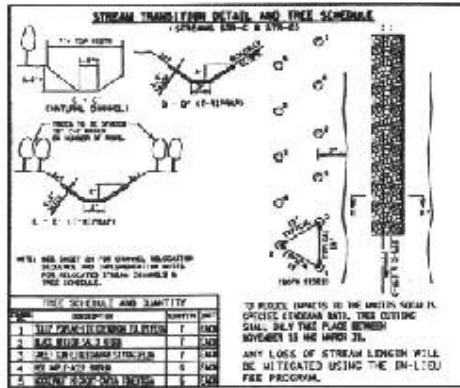
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SHEET 2 OF 3





Permit Sketch

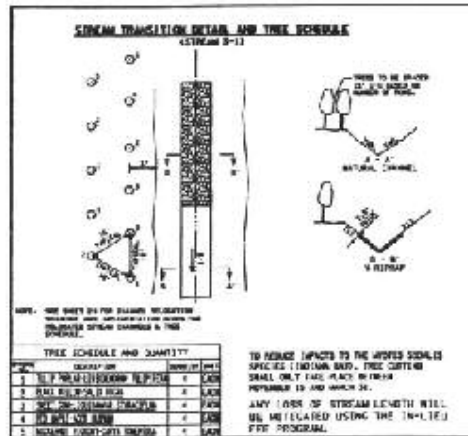


Channel Relocation & Culvert Construction

From Sta. 121+60± LL to Sta. 124+20± LL
 Unnamed tributary to Wolf River (STR-C)
 Existing open stream length = 277± ft.
 Existing culvert length = 102 ft.
 Total existing stream length = 379± ft.
 Proposed open stream length at inlet = 216± ft.
 (rip-rap lined channel)
 Proposed 60 inch x 34 inch RCP length = 42 ft.
 (Sta. 24+20 Old State route 28)
 Proposed open stream length at outlet = 180± ft.
 (rip-rap lined channel)
 Total proposed stream length = 441± ft.

Channel Relocation

From Sta. 123+80± RL to Sta. 125+90± LL
 Unnamed tributary to Wolf River (STR-D)
 Existing open stream length = 301± ft.
 Existing culvert length = 90± ft.
 Total existing stream length = 451± ft.
 Proposed open stream length = 207 ft. (rip-rap lined channel)



STREAM S-1
 STA. 122+44 (S.R. 28)

DETAILS

APPLICATION BY:

TENNESSEE DEPARTMENT OF TRANSPORTATION
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 S.R. 28 (U.S. 127) SLIDE AREA FROM
 0.2 MI. NORTH OF BIG DRY CREEK, TO
 1.7 MI. NORTH OF BIG DRY CREEK
 NORTH OF JAMESTOWN, FENTRESS COUNTY
 STREAMS S-1, STR-C & STR-D

DATE: 06/29/06

REVISED: / /

SHEET 3 OF 8

